Title: Downlink Access Control

Field of the Invention

The present invention relates to downlink access control in a mobile communication system.

Background to the Invention

In the general packet radio service (GPRS) of GSM (Global System for Mobile communications) networks, downlink multiplexing of radio blocks destined for different mobile stations, sharing a basic physical subchannel, is enabled with an identifier called the temporary flow indicator (TFI) included in each radio block. A temporary block flow (TBF) is a physical connection used by to RR (Radio Resource) entities to support the unidirectional transfer of LLC PDUs (Low Layer Compatibility Packet Data Units) on shared basic physical subchannels. Each TBF is assigned a TFI, which is unique among concurrent TBFs, by the network.

The TFI is encoded in the RLC/MAC header in such a way that every mobile station that can receive the radio block can decode the TFI.

The concept of transport channels is known from UTRAN (Universal mobile Telecommunications System Radio Access Network). Each of these transport channels can carry a bit class having a different quality of service (QoS) requirement. A plurality of transport channels for the same user can be multiplexed and sent in the same physical subchannel. In such a system, each radio block may carry one or more TBFs which means that including TFIs in RLC/MAC headers is not a practical way of identifying the mobile station to which a radio block is destined.

Summary of the Invention

According to the present invention, there is provided a method of wirelessly transmitting data signals to one of a plurality of mobile stations, each of which can sense the transmitted signal, the method comprising:-

allocating a locally unique code to a destination mobile station; and